

What is claimed is:

1. A ball-stud joint composed of a major body and a ball stud connected to the major body, wherein the ball stud is comprised of a ball fit for pivoting movement into a ball socket recessed in the major body, a stud having an end made integrally with the ball and another plain end adapted to be subjected to a riveting operation to joint the stud with any counterpart, and a flange formed integrally around the stud to provide a surface coming into abutment against the counterpart, and wherein the flange has a sloping side extending radially outwardly from a flat surface facing on to the ball to an outside periphery of the flange in such a way that the sloping side comes into engagement with a slantwise bearing area on a lower die jig when the plain end of the stud is formed into rivet head.

2. A ball-stud joint constructed as defined in claim 1, wherein the sloping side is made in $S \geq 1.0\text{mm}$ and $25^\circ \leq \theta \leq 50^\circ$, in which S denotes a widthwise distance of the flange ranging from the flat surface to a level where the sloping side meets the outside periphery of the flange, and θ denotes an angle included between the flat surface and the sloping side of the flange.

3. A ball-stud joint constructed as defined in

claim 1, wherein when the angle θ included between the flat surface and the sloping side is at 45° , the widthwise distance S of the flange ranging from the flat surface to the level where the sloping side meets the outside periphery of the flange is determined to $1.0\text{mm} \leq S \leq 2.0\text{mm}$.

4. A ball-stud joint constructed as defined in claim 3, wherein the widthwise distance S is preferably in a range of $1.2\text{mm} \leq S \leq 1.5\text{mm}$.

5. A ball-stud joint constructed as defined in claim 1, wherein the major body is made of steel and has a threaded bore to connect the major body to another counterpart.

6. A ball-stud joint constructed as defined in claim 1, wherein a retainer ring to keep the ball stud in connection with the major body is installed between an opening of the ball socket in the major body and an outside surface of the ball in a way held at the opening in the major body.

7. A ball-stud joint constructed as defined in claim 1, wherein the ball stud has a retainer made integrally on the stud between the flange and the ball, providing an annular groove between the retainer and the end surface of the flange to fit over an mouth of a dust proof cover.

8. A ball-stud joint constructed as defined in claim 7, wherein a riveting operation to form a rivet head on the plain end of the stud against the counterpart is carried out while the dust proof cover is remained fit in the groove formed on the stud of ball stud.

9. A ball-stud joint constructed as defined in claim 1, wherein the flange on the ball stud is made in such configuration that is circular in cross section and raised on the top thereof into a frustum of right circular cone to provide the sloping side.

10. A ball-stud joint constructed as defined in claim 1, wherein a riveting tool to form the rivet head on the plain end of the stud is comprised of a lower die jig to hold the stud of the ball stud thereon, and an upper die jig to form the plain end of the stud into the rivet head by direct pressure, the lower die jig being composed of a stationary lower die fastened to a stationary holder, and a movable lower die mounted on a movable holder, and wherein the movable and stationary lower dies have semicircular slantwise bearing halves, one to each die, which are opposed to each other to hold the sloping sides of the stud between them when moved towards one another into cooperation relationship.